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PRELIMINARY ISSUE

Rev. PA1. 4/18/28

INSTALLATION INSTRUCTIONS

IIN-D130-1046

Cable Cutter Kit

AIRBUS HELICOPTERS EC130 MODELS

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1.0 INTRODUCTION

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The Dart D130-1046-XXX Cable Cutter Installations mount to the roof and lower fuselage of Airbus Helicopters EC130 B4/T2 aircraft as shown in Figures 1 and 2.

The function of the Cable Cutter Kit is to protect the aircraft from horizontally strung wires and cables. If the aircraft encounters cables in flight, the kit is designed to deflect them into cutters and sever them. This is intended to mitigate the possibility of a catastrophic entanglement of wires in the landing gear and/or main rotor, and seeks to minimize the severity of this type of incident.

1.1 Cable Cutter Installations

These installations contain all the provisions to install upper and lower cable cutters on an EC130 aircraft. The composition of the kits varies depending on the aircraft model and what hardware is pre-installed on the aircraft. The individual provisions are outlined in section 1.2 of this document.

The **D130-1046-011 CABLE CUTTER INSTALLATION, EC130 T2** is a kit comprised of upper removable provisions, lower removable provisions, and lower fixed provisions. This kit is intended for EC130 T2 aircraft that already have upper fixed provisions installed in the roof of the aircraft.

The **D130-1046-013 CABLE CUTTER INSTALLATION, EC130 T2** is a kit comprised of upper removable provisions, lower removable provisions, upper fixed provisions, and lower fixed provisions. This kit is intended for EC130 T2 aircraft that do not have upper fixed provisions installed in the roof of the aircraft.

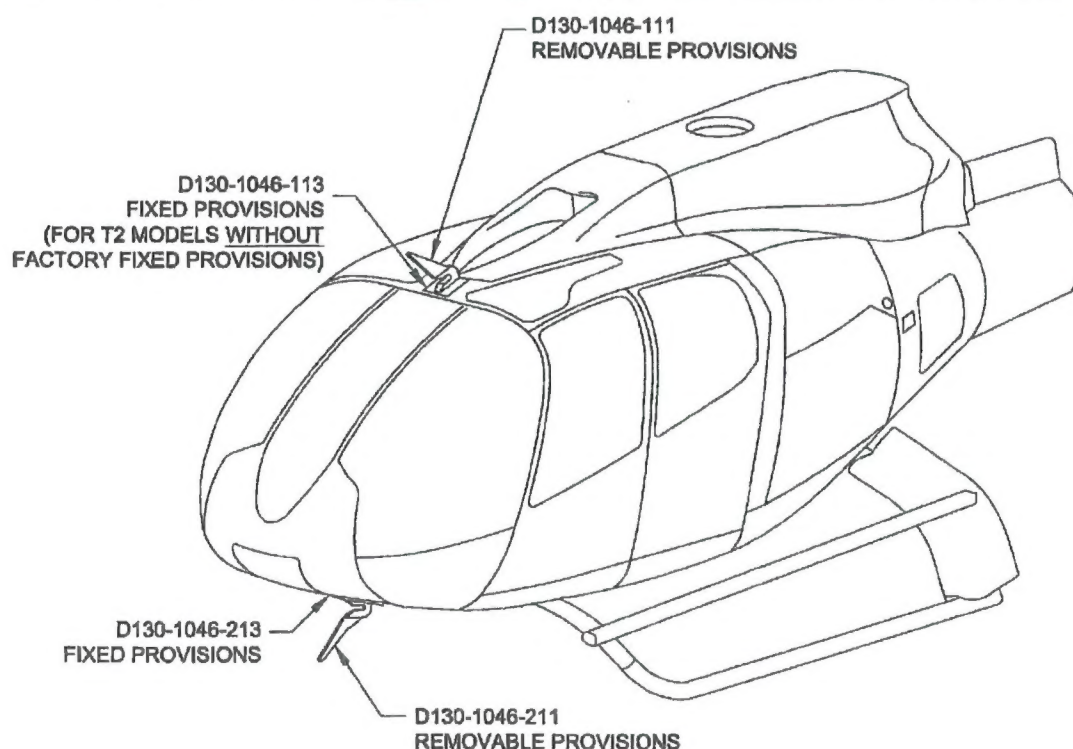


Figure 1 – Location of D130-1046-011/013 Cable Cutter Installation (T2 Models)

The **D130-1046-021 CABLE CUTTER INSTALLATION, EC130 B4** is a kit comprised of upper removable provisions, lower removable provisions, upper fixed provisions, and lower fixed provisions. This kit is intended for EC130 B4 aircraft that are PRE AMS OP-3560.

The **D130-1046-023 CABLE CUTTER INSTALLATION, EC130 B4** is a kit comprised of upper removable provisions, lower removable provisions, upper fixed provisions, lower fixed provisions, and roof reinforcement. This kit is intended for EC130 B4 aircraft that are not PRE AMS OP-3560. These aircraft require that the roof be reinforced before accepting the upper fixed provisions kit.

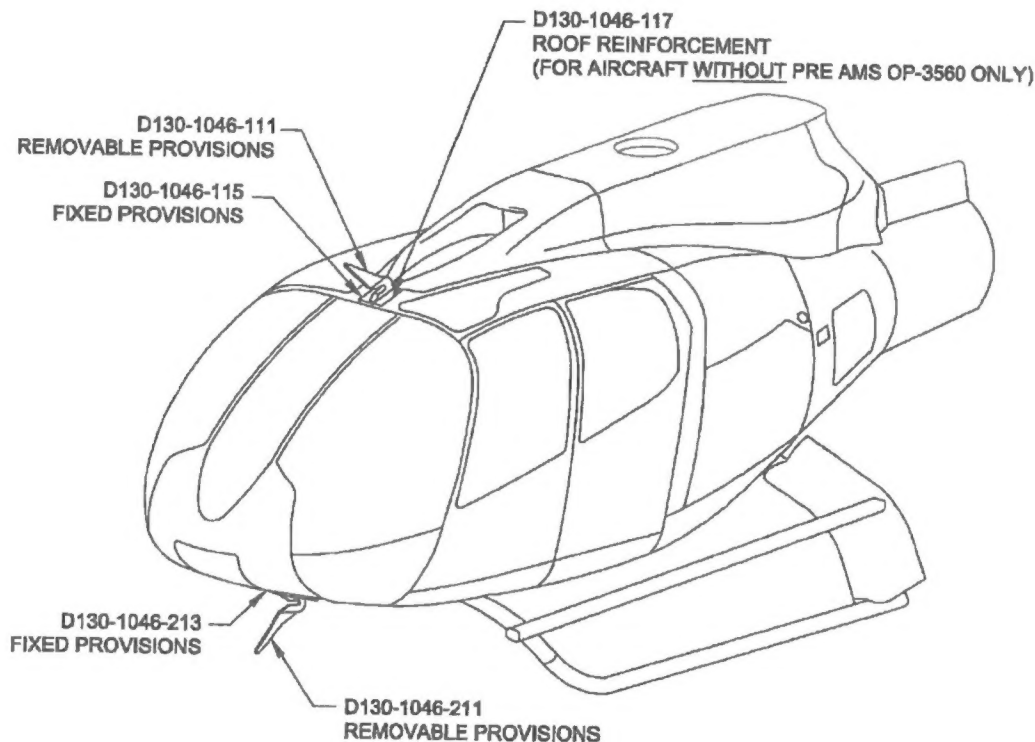


Figure 2 – Location of D130-1046-021/-023 Cable Cutter Installation (B4 Models)

1.2 Cable Cutter Provision Kits

These kits contain the individual provisions for the cable cutter installations. The removable provisions require fixed provisions be installed in the aircraft prior to installation. The fixed provisions may be installed without the removable provisions (cable cutter assemblies) as long as the fastener holes are filled with hardware per Section 3 of these instructions.

The **D130-1046-111 REMOVABLE PROVISIONS, UPPER** is a kit comprised of an upper cable cutter assembly and fasteners. The kit is compatible with EC130 B4 and T2 aircraft. Installation of this kit requires one of the following fixed provisions in the roof: Dart D130-1046-113, Dart D130-1046-115, Airbus Helicopters 130-200234 (FAA STC SR02182NY), or the Airbus Helicopters 'Cable Cutter Capabilities' shown in Section 25-61-00-02 of IPC EC130 T2.

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The D130-1046-113 **FIXED PROVISIONS, UPPER, EC130 T2** is a kit comprised of potted inserts and a doubler to modify the roof of EC130 T2 aircraft to accept a cable cutter assembly (not included). This kit is compatible with the following cable cutter kits: Dart D130-1046-111, Airbus Helicopters 130-200244 (FAA STC SR02182NY), or the Airbus Helicopters 704A42-630-013.

The D130-1046-115 **FIXED PROVISIONS, UPPER, EC130 B4** is a kit comprised of potted inserts, doubler, and inlet cap to modify the roof and inlet cowling of EC130 B4 aircraft to accept a cable cutter assembly (not included). The D130-1046-115 kit is only compatible with EC130 B4 aircraft who's roof has been reinforced with the Dart D130-1046-117 Roof Reinforcement, Airbus Helicopters 130-200394 (FAA STC SR02182NY), or with aircraft that are PRE AMS OP-3560 (roof has been reinforced). This kit is compatible with the following cable cutter kits: Dart D130-1046-111, Airbus Helicopters 130-200244 (FAA STC SR02182NY), or the Airbus Helicopters 704A42-630-013.

The D130-1046-117 **ROOF REINFORCEMENT, EC130 B4** is a kit comprised of composite cloth to strengthen the roof of EC130 B4 to accept cable cutter fixed provisions. This kit is not required on and is not compatible with aircraft that are PRE AMS OP-3560 (roof has been reinforced for fixed provisions). This kit is compatible with the Dart D130-1046-115 fixed provisions.

The D130-1046-211 **REMOVABLE PROVISIONS, LOWER** is a kit comprised of a lower cable cutter assembly and fasteners. The kit is compatible with EC130 B4 and T2 aircraft. Installation of this kit requires one of the following fixed provisions in the lower body: Dart D130-1046-213 or Airbus Helicopters 130-200234 (FAA STC SR02182NY).

The D130-1046-213 **FIXED PROVISIONS, LOWER** is a kit comprised riveted doublers and brackets to modify the lower aircraft body of EC130 B4 or T2 aircraft to accept a cable cutter assembly (not included). This kit is compatible with the following cable cutter kits: Dart D130-1046-211, Airbus Helicopters 130-200324 (FAA STC SR02182NY), or the Airbus Helicopters 704A42-630-012.

1.3 Parts Lists

The components in the Dart kits are as defined in the tables in Section 5 of these instructions. For convenience, only the last three digits of the part number are listed on the top row of each table. The quantity of each component, which is included in the D130-1046-011 Cable Cutter Installation, for example, is as defined in the column labeled -011.

2.0 GENERAL NOTES

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COMPATIBILITY

Compatibility of this installation with the aircraft is the **responsibility of the installer**. Ensure that this installation does not conflict with a previous modification.

WORKMANSHIP

Unless otherwise stated, all workmanship should be to the standard set by the Aircraft Maintenance Manual as well as standard practices outlined in AC 43.13-1B & 2B. Refer to the Aircraft Maintenance Manual for standard shop practices not referred to in these Installation Instructions.

CONTINUING AIRWORTHINESS

These installations should be maintained in accordance with the Instructions for Continued Airworthiness ICA-D130-1046.

ADDITIONAL REFERENCES

Aircraft Maintenance Manual

REQUIRED MATERIALS NOT INCLUDED WITH KIT**TABLE 2-1: ALL AIRCRAFT**

Material	Description	Manufacturer
Penetrox A-13	Electrical Joint Compound	Burndy
Nycote 7-11BL	Protective Coating	Nycote
PRC Type Sealant*	Sealant	PPG/Desoto
EA9396, Part A	Adhesive (Hysol) (Blue Base)	Henkel
EA9396, Part B	Adhesive (Hysol) (Red Hardener)	Henkel
BJOA0930 (BJO-0930)	Brown Microballoons (Filler)	Various
MS3367-2 or TY28MX	Cable Tie (Tie wrap), Color optional	Various/Thomas and Betts for TY28MX

*See Acceptable Sealants section of these instructions

TABLE 2-2: EC130 B4 REQUIRING D130-1046-117 ROOF REINFORCEMENT

Material	Description	Manufacturer
1181	Copper Foil EMI Tape (51x0.07mm)	3M

ACCEPTABLE SEALANTS

Unless otherwise specified, the following sealants are acceptable for use and shall be referred to as 'Sealant' or 'seal' throughout the rest of these instructions.

- P/S 890B1/2
- PR1422 Series
- PR1440 Series
- MIL-S-8802

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GENERAL

- Longer or shorter fasteners must be used to ensure a minimum of 1.5 - 4 threads in safety. Alternately, additional washers may be used under the nut.
- For rivets, measure total thickness after drilling installation holes. Use longer or shorter rivets of the same specification as required.
- Coat threads of all threaded fasteners with sealant prior to installation.
- All rivets and "maxi bolts" to be installed wet using sealant.
- Deburr and repair composite structure after drilling/trimming per the applicable Aircraft Maintenance Manual.
- All drilled or trimmed aluminum components are to be deburred and touched up with Alodine 1200S/1201 chemical conversion coating in accordance with MIL-DTL-5541 and primed using MIL-P-23377 or MIL-P-85582 primer.

TOOLS

- Standard shop tools including both metric and imperial drill bits are required for this installation.
- The D5604-1 Drill Bushing is included with the D130-1046-113/-115 kits.

STANDARD TORQUE

Unless otherwise specified all fasteners should be torqued per the following Tables:

TABLE 2-3: TORQUE VALUES, METRIC STEEL FASTENERS

Size	Torque	
4mm	22-27 in-lbs	2.5-3.0 N-m
5mm	35-44 in-lbs	4.0-5.0 N-m
6mm	66-80 in-lbs	7.5-9.0 N-m
7mm	111-133 in-lbs	12.5-15.0 N-m

TABLE 2-4: TORQUE VALUES, METRIC TITANIUM FASTENERS

Size	Torque	
4mm	16-19 in-lbs	1.8-2.1 N-m
5mm	33-37 in-lbs	3.7-4.2 N-m
6mm	58-66 in-lbs	6.6-7.5 N-m
7mm	89-102 in-lbs	10.0-11.5 N-m

TABLE 2-5: TORQUE VALUES, IMPERIAL STEEL FASTENERS

Size	Torque	
8-32	12-15 in-lbs	1.4-1.7 N-m
10-32	20-25 in-lbs	2.3-2.8 N-m
1/4"	50-70 in-lbs	5.6-7.9 N-m
5/16"	100-140 in-lbs	11.3-15.8 N-m

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3.0 INSTALLATION PROCEDURE

3.1 Preparation

- 3.1.1 For EC130 B4 aircraft without the PRE AMS OP-3560 modification only, perform the roof reinforcement per Drawing D130-1046-117.
- 3.1.2 Disconnect the external power unit and battery.
- 3.1.3 If installing upper fixed provisions for B4 Models:
- Remove the LH and RH Main Gear Box Cowling per the Aircraft Maintenance Manual.
 - Remove the Air Inlet Cowling per the Aircraft Maintenance Manual.
 - Remove the Interior Overhead Panel per the Aircraft Maintenance Manual.
- 3.1.4 If installing upper fixed provisions on T2 Models:
- Remove the Interior Overhead Panel per the Aircraft Maintenance Manual.
- 3.1.5 If installing lower fixed provisions (all models):
- Remove the LH and RH lower Forward fairing per the Aircraft Maintenance Manual.
 - Remove the Lower Center Forward Fairing per the Aircraft Maintenance Manual.
 - Remove the Chin Window per the Aircraft Maintenance Manual and retain the hardware for reinstallation.
 - Remove the Glide Slope Antenna per the Aircraft Maintenance Manual and retain the hardware for reinstallation.
 - Loosen the wire harness in the area of the lower cutter.

3.2 Installation of D130-1046-113 Fixed Provisions, Upper, EC130 T2

Refer to Drawing D130-1046-113. Installation of these fixed provisions requires use of the D5556-041 Upper Cutter Assembly (from the D130-1046-111 kit) as a template for match drilling.

- 3.2.1 Position the D5556-041 Upper Cutter Assembly (ref) on the aircraft centerline as close as possible to the center of the windshield while remaining entirely on the roof panel. Transfer mark all fastener holes, trace the outline of the assembly onto the roof and remove the D5556-041 Cutter Assembly. See Drawing Sheet 2.
- 3.2.2 Locate the area that the D5600-1 Doubler (Item 1) will be installed, remove any existing rivets installed into the carbon beam in the installation area to allow the D5600-1 Doubler to sit flush. See Drawing Sheet 4.
- 3.2.3 Temporarily fix the D5600-1 Doubler onto the carbon beam, transfer mark the existing rivet holes to the D5600-1 Doubler and drill the D5600-1 Doubler using a #30 Drill ($\varnothing 0.129$ "). If there are no existing rivets in the carbon beam, use the rivet pattern defined in View B-B and drill 9 holes using a #30 Drill ($\varnothing 0.129$ ") thru the D5600-1 Doubler and lower face only of the carbon beam.
- 3.2.4 Transfer drill the (11) existing holes on the aft face of the D5600-1 Doubler thru the aft face only of the carbon beam using a #30 Drill ($\varnothing 0.129$ "). See View C-C.
- 3.2.5 Using the forward holes of the D5556-041 Cutter Assembly as a guide, drill $\varnothing 8.5$ mm thru the roof, upper and lower faces of the carbon beam and D5600-1 Doubler. Use the D5604-1 Drill Bushing (Item 4) to ensure the drill remains perpendicular to the surface. See Drawing Sheets 3 and 4.
- 3.2.6 Remove the D5600-1 Doubler and open up the (2) $\varnothing 8.5$ mm holes in the lower face of the carbon beam to $\varnothing 14.0$ mm.

- 3.2.7 Open up the (2) Ø8.5mm holes in the D5600-1 Doubler to Ø14.0mm.
- 3.2.8 Install the D5600-1 Doubler onto the carbon beam using (11) MS21141U0402W Maxi Bolts (Item 5) thru the aft face and (9) MS21141U0404W Maxi Bolts (Item 6) thru the bottom face.
- 3.2.9 On the roof of the aircraft, pilot drill the remaining (6) fastener locations thru the roof to Ø6.1mm. These holes will be used to locate the (6) D5603-M6-9.5 (Item 3) Inserts.
- 3.2.10 For installation of the (6) D5603-M6-9.5 Inserts, refer to Note 4 on Drawing D130-1046-113 for the potting process information. Prepare the insert potting compound as follows:
- | | |
|---|-----------|
| a) EA9396 Adhesive, Part A (Blue Base) | 100 parts |
| b) EA9396 Adhesive, Part B (Red Hardener) | 30 parts |
| c) BJOA0930 (Brown Microballons) | 10 parts |
- Per Drawing Note 4, the D5603-M6-9.5 Inserts must be temporarily secured with screws coated in release agent. Allow potting compound to cure 24 hours before removing the screws. Potting compound requires 168 hours (7 days) to fully cure.
- 3.2.11 Install (1) D5563-1 Placard (Item 2). See View B-B.
- 3.2.12 If installing fixed provisions only and not proceeding with the -111 installation, plug with hardware as shown on Drawing D130-1046-111 Sheet 4.

3.3 Installation of D130-1046-115 Fixed Provisions, Upper, EC130 B4

Refer to Drawing D130-1046-115. Installation of these fixed provisions requires use of the D5556-041 Upper Cutter Assembly (from the D130-1046-111 kit) as a template for match drilling.

- 3.3.1 Position the D5556-041 Upper Cutter Assembly (ref) on the aircraft centerline as close as possible to the center of the windshield while remaining entirely on the roof panel. Transfer mark all fastener holes, trace the outline of the assembly onto the roof and remove the D5556-041 Cutter Assembly. See Drawing Sheet 2.
- 3.3.2 Temporarily secure the air intake cowling to the roof, mark its outline on the roof and locate position for the D5599-1 Inlet Cap (Item 1), observing the distance between the cutter assembly and inlet cap. See Drawing Sheet 2.
- 3.3.3 Remove and retain the existing stud and nutplate on the air inlet. Trim the air inlet cowling to match the D5599-1 Inlet Cap ensuring proper clearance from the D5556-041 Cutter Assembly. See Drawing Sheets 2 and 3.
- 3.3.4 Relocate the nutplate previously removed from the air inlet cowling observing edge distance. Transfer mark the rivet holes from the nutplate to the cowling and drill thru the cowling using a #40 Drill (Ø0.098"). Reinstall nutplate using using (2) CCR264CS-3-3 rivets (Item 7). Modify inlet ground cover to suit relocated stud. See Drawing Sheet 3.
- 3.3.5 Locate the D5599-1 Inlet Cap onto the air inlet cowling. Mark locations for (10) rivets (5 LH and 5 RH) equally spaced while maintaining sufficient edge distance and drill (10) PL thru the D5599-1 Inlet Cap and air inlet cowling using a #30 Drill (Ø0.129"). See Drawing Sheet 2.
- 3.3.6 Prior to installing the D5599-1 Inlet Cap, coat the faying surfaces with sealant. Install the D5599-1 Inlet Cap onto the air inlet cowling using (10) NAS1921C04S03U rivets (Item 10) and (10) LN9025-0305K washers (Item 6) under the rivet tails. Reinstall the previously removed stud. See Drawing Sheets 2 and 3.
- 3.3.7 Locate the area that the D5600-1 Doubler (Item 2) will be installed, remove any existing rivets installed into the carbon beam in the installation area to allow the D5600-1 Doubler to sit flush. See Drawing Sheet 4.

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- 3.3.8 Temporarily fix the D5600-1 Doubler onto the carbon beam, transfer mark the existing rivet holes to the D5600-1 Doubler and drill the D5600-1 Doubler using a #30 Drill ($\varnothing 0.129"$). If there are no existing rivets in the carbon beam use the rivet pattern defined in View B-B and drill (9) holes using a #30 Drill ($\varnothing 0.129"$) thru the D5600-1 Doubler and lower face only of the carbon beam.
- 3.3.9 Transfer drill the (11) existing holes on the aft face of the D5600-1 Doubler thru the aft face only of the carbon beam using a #30 Drill ($\varnothing 0.129"$). See View C-C.
- 3.3.10 Using the forward holes of the D5556-041 Cutter Assembly as a guide, drill $\varnothing 8.5\text{mm}$ thru the roof, upper and lower faces of the carbon beam and D5600-1 Doubler. Use the D5604-1 Drill Bushing (Item 5) to ensure the drill remains perpendicular to the surface. See Drawing Sheets 3 and 4.
- 3.3.11 Remove the D5600-1 Doubler and open up the (2) $\varnothing 8.5\text{mm}$ holes in the lower face of the carbon beam to $\varnothing 14.0\text{mm}$.
- 3.3.12 Open up the (2) $\varnothing 8.5\text{mm}$ holes in the D5600-1 Doubler to $\varnothing 14.0\text{mm}$.
- 3.3.13 Install the D5600-1 Doubler onto the carbon beam using (11) MS21141U0402W Maxi Bolts (Item 8) thru the aft face and (9) MS21141U0404W Maxi Bolts (Item 9) thru the bottom face.
- 3.3.14 On the roof of the aircraft, pilot drill the remaining (6) fastener locations thru the roof to $\varnothing 6.1\text{mm}$. These holes will be used to locate the (6) D5603-M6-9.5 (Item 4) Inserts.
- 3.3.15 For installation of the (6) D5603-M6-9.5 Inserts, refer to Note 9 for the potting process information. Prepare the insert potting compound as follows:
- | | |
|---|-----------|
| a) EA9396 Adhesive, Part A (Blue Base) | 100 parts |
| b) EA9396 Adhesive, Part B (Red Hardener) | 30 parts |
| c) BJOA0930 (Brown Microballons) | 10 parts |
- Per Drawing Note 4, the D5603-M6-9.5 Inserts must be temporarily secured with screws coated in release agent. Allow potting compound to cure 24 hours before removing the screws. Potting compound requires 168 hours (7 days) to fully cure.
- 3.3.16 Install (1) D5563-1 Placard (Item 2). See View B-B.
- 3.3.17 If installing fixed provisions only and not proceeding with the -111 installation, plug with hardware as shown on Drawing D130-1046-111 Sheet 4.

3.4 Installation of D130-1046-111 Removable Provisions, Upper

Refer to Drawing D130-1046-111.

- 3.4.1 Remove the top fiberglass layer to a diameter of 18mm (0.71") to reveal the bonding strip below ((1) place in the area of the fastener indicated). Remove the primer and anodize from the mating surface on the D5556-041 Upper Cutter Assembly (Item 1), touch up bare metal with electrically conductive chemical film material (Alodine 600) per MIL-DTL-5541. Apply Penetrox A13 Electrical Joint Compound to the mating surfaces. See Drawing Sheet 1 and Note 8.
- 3.4.2 Secure the D5556-041 Upper Cutter Assembly to the roof using (6) LN9386-06018A Bolts (Item 9) and (6) LN9016-06K Bevelled Washer (Item 4). Install the LN9386-06018A Bolts wet, using sealant. Fillet seal around the fastener heads using sealant. See Drawing Sheet 1.
- 3.4.3 Install the (1) D5605-1 Spacer (Item 3) into the carbon beam. Trim tip face flush with the bottom of the counterbore in the D5556-041 Upper Cutter Assembly (Item 1). See Drawing Sheet 2 Section A-A.
- 3.4.4 Install the Forward LH LN9037-06075 Bolt (Item 7), LN9025-0620K Washer (Item 6), LN9025-0610K Washer (Item 5) and LN9338-06 Nut (Item 8) wet using sealant. Fillet seal around bolt heads using sealant. Dome seal around the nuts using sealant.

- 3.4.5 Prior to installing the Forward RH bolt, spot face the counterbore and remove the primer and anodize. See Drawing Sheet 2 and Note 9.
- 3.4.6 Install the Forward RH LN9037-06075 Bolt (Item 7), LN9025-0620K Washer (Item 6), LN9025-0610K Washer (Item 5) and LN9338-06 Nut (Item 8). After installation protect bare surfaces with Nycote 7-11BL protective coating (Item 11). Fillet seal around bolt heads using sealant. Dome seal around the nuts using sealant.
- 3.4.7 Fillet seal around base of D5556-041 Upper Cutter Assembly (Item 1) with sealant.

3.5 Installation of D130-1046-213 Fixed Provisions, Lower Cutter

Refer to Drawing D130-1046-213. Installation of the fixed provisions requires use of the D5555-041 Lower Cutter Assembly (from the D130-1046-211 kit) as a template for match drilling.

- 3.5.1 Mark the centerline on the D5582-1 Aft Angle (Item 9).
- 3.5.2 Locate the area that the D5582-1 Aft Angle will be installed in. Mark the centerline of the aircraft onto the chin panel and canopy beam. See Drawing Sheet 5 Section E-E.
- 3.5.3 Grind the composite mounting clips on the canopy beam smooth and sand smooth the painted surface to allow the flush installation of the D5582-1 Aft Angle.
NOTE: Do not penetrate the composite plies below the paint.
- 3.5.4 Locate the D5582-1 Aft Angle onto the centerline of the canopy beam and temporarily fix.
- 3.5.5 Using the D5582-1 Aft Angle as a template, match drill from the D5582-1 Aft Angle using a #30 Drill ($\varnothing 0.129$ ") through the forward face only of the canopy beam.
- 3.5.6 Locate the area that the D5577 U-Channel (Item 1) will be installed in. Grind the composite mounting clips smooth and sand smooth the painted surface to allow the flush installation of the D5577-1 U-Channel. See Drawing Sheet 4.
NOTE: Do not penetrate the composite plies below the paint.
- 3.5.7 Locate the D5578-1 Shim (Item 2), D5577-1 U-Channel, qty (2) D5579-1 Center Clip (Item 3), D5581-1 Fwd LH Clip (Item 5), D5581-3 Aft LH Clip (Item 7), D5581-2 Fwd RH Clip (Item 6), D5581-4 Aft RH Clip (Item 8) between the windshield center posts to form a "frame" and temporarily fix. It is permissible to trim the D5578-1 Shim (Item 2) and D5577-1 U-Channel (Item 1) to fit. See Drawing Sheet 7 Section E-E and Sheet 8 Section J-J.
- 3.5.8 Mark the centerline on the D5584-1 Doubler (Item 11).
- 3.5.9 Locate and remove the existing rivets for the installation of the D5584-1 Doubler against the canopy. See Drawing Sheet 5.
- 3.5.10 Tape the D5584-1 Doubler to the D5555-041 Lower Cutter Assembly and locate on the aircraft centerline at the aft edge of the center window on the chin panel and fix temporarily. See Drawing Sheet 5.
- 3.5.11 Using the (2) counterbored holes on the forward end of the D5555-041 Lower Cutter Assembly as a template, drill $\varnothing 6.2$ mm through the D5584-1 Doubler, D5578-1 Shim and D5577-1 U-Channel. See Drawing Sheet 5.
- 3.5.12 Remove from the aircraft the clamped together D5578-1 Shim, D5577-1 U-Channel, qty (2) D5579-1 Center Clips, D5581-1 Fwd LH Clip, D5581-3 Aft LH Clip, D5581-2 Fwd RH Clip, and D5581-4 Aft RH Clip.
- 3.5.13 Match drill from the D5578-1 Shim using a #30 Drill ($\varnothing 0.129$ ") thru the D5577-1 U-Channel. Countersink the holes in D5578-1 Shim $\varnothing 0.225$ "x100°.

- 3.5.14 Match drill from the qty (2) D5579-1 Center Clips using a #30 Drill ($\varnothing 0.129$ ") thru the D5577-1 U-Channel and D5578-1 Shim. To locate the position of the (2) end holes on each Center Clip, see Detail C. Countersink the holes in D5578-1 Shim $\varnothing 0.225 \times 100^\circ$.
- 3.5.15 Match drill from the D5581-1 Fwd LH Clip, D5581-3 Aft LH Clip, D5581-2 Fwd RH Clip, and D5581-4 Aft RH Clip using a #30 Drill ($\varnothing 0.129$ ") thru the D5577-1 U-Channel. To locate the position of the end holes on each Clip, see Sections E-E and J-J.
- 3.5.16 Locate the (2) LN29679AM6 Nutplates (Item 40) over the hole location on the D5577-1 U-Channel. Transfer mark the rivet holes from the Nutplates to the U-Channel and drill the U-Channel using a #30 Drill ($\varnothing 0.129$ "). Countersink the holes on the bottom face of the U-Channel $\varnothing 0.225 \times 100^\circ$. See Detail C.
- 3.5.17 Reassemble the "frame": Attach the D5578-1 Shim to the D5577-1 U-Channel using (26) MS20426AD4-7 Csk Rivets (Item 26). Attach the (2) D5579-1 Center Clip using (12) MS20426AD4-8 Csk Rivets (Item 27). See Detail C.
NOTE: Do not rivet through the aircraft skin.
- 3.5.18 Attach the D5581-1 Fwd LH Clip and D5581-2 Fwd RH Clip to the D5577-1 U-Channel using (7) MS20470AD4-5 (Item 24). Attach the D5581-3 Aft LH Clip and D5581-4 Aft RH Clip to the D5577-1 U-Channel using (8) MS20470AD4-5. See Section E-E and J-J.
- 3.5.19 Relocate the assembled frame in the aircraft. Mark and drill the (24) holes for the MS21141U0502W Maxi Bolts (Item 33) using a #22 Drill ($\varnothing 0.157$ ") thru the inboard face of the windshield center post. Use the rivet pattern defined in Sections A-A and B-B. Do not rivet at this time.
- 3.5.20 Temporarily position D5583-1 Radius Block (Item 10) onto the D5582-1 Aft Angle (Item 9) using the dimensions shown in Section E-E. Ensuring that the D5584-1 Doubler to the D5555-041 Lower Cutter Assembly are still temporarily fixed to the aircraft, match drill the aft holes $\varnothing 6.2\text{mm}$ thru the D5584-1 Doubler and D5555-041 Lower Cutter Assembly using the holes in the D5583-1 Radius Blocks as a drill template. See Drawing Sheet 5.
- 3.5.21 Match drill (8) fastener holes from the D5584-1 Doubler through the canopy and the bottom face of the canopy beam using a #22 Drill ($\varnothing 0.157$ "). Match drill the (4) existing fastener holes from the canopy beam thru the D5584-1 Doubler. Countersink the (8) fastener locations under the D5555-041 Cutter Assembly $\varnothing 0.344 \times 100^\circ$. See Sheet 5.
- 3.5.22 Match drill the (4) holes from the D5582-1 Aft Angle (Item 9) thru the canopy and D5584-1 Doubler (Item 11) using a #30 Drill ($\varnothing 0.129$ "). Countersink the (4) holes on the D5584-1 Doubler $\varnothing 0.225 \times 100^\circ$ on the bottom face.
- 3.5.23 Remove the D5582-1 Aft Angle (Item 9), D5584-1 Doubler (Item 11) and D5583-1 Radius Blocks (Item 10) from the aircraft.
- 3.5.24 Locate (2) L29679AM6 Nutplates (Item 40) onto the D5583-1 Radius Blocks (Item 10) and D5582-1 Aft Angle (Item 9). Transfer mark the rivet holes and drill thru using a #30 Drill ($\varnothing 0.129$ ").
- 3.5.25 Locate the area of the aircraft where D5582-1 Aft Angle will be installed. Apply D5597-3-3 Cres Tape (Item 22) to the inside of the chin panel and forward face of the canopy beam. Ensure that the tape extends a minimum of 3mm (0.12") past the extents of the D5582-1 Aft Angle. See Section E-E.
- 3.5.26 Coat the faying surface of the D5584-1 Doubler with sealant and reposition onto the aircraft.
- 3.5.27 Coat the faying surface of the D5582-1 Aft Angle with sealant and reposition onto the aircraft. Install using (4) NAS1921C04S04U Csk Rivets (Item 37) and (14) MS21141U0402W Maxi Bolts (Item 14). See Section E-E.

- 3.5.28 Install the D5584-1 Doubler using (8) MS21140U0505W Csk Maxi Bolts (Item 31) and (4) MS21141U0505W Maxi Bolts (Item 34). See Sheet 5.
- 3.5.29 Locate the area of the aircraft where preassembled "frame" will be installed. Apply D5597-3-3 Cres Tape (Item 22) to the center posts and inside of the chin panel. Ensure that the tape extends a minimum of 3mm (0.12") past the extents of the "frame".
- 3.5.30 Apply sealant to the faying surfaces of the preassembled "frame". Reposition the "frame" inside the aircraft and install using (24) MS21141U0502W Maxi Bolts (Item 33).
- 3.5.31 Attach the MS25083-2BB10 Bonding Jumper (Item 35) to the D5581-1 Fwd LH Clip using (1) LN9037-05016 Bolt (Item 43), (1) LN9016-05K Bevelled Washer (Item 42), (2) LN9166-5.3N Washer (Item 45) and (1) LN9338-05 Nut (Item 47). Ensure the contact area is clear of primer and anodize to Ø8mm (Ø0.32"). Protect the bare metal using Nycote 7-11BL protective coating (Item 51).
- 3.5.32 Locate the L29679AM6 Nutplates onto the D5583-1 Radius Blocks and D5582-1 Aft Angle. Transfer drill thru the chin panel and D5584-1 Doubler using a #30 Drill (Ø0.129"). Countersink the holes on the bottom face of the D5584-1 Doubler Ø0.225"x100°. See Sheet 5.
- 3.5.33 Install the (2) L29679AM6 Nutplates using (4) MS20426AD4-8 Rivets (Item 27). See Drawing Sheet 5.
- 3.5.34 Determine the location of the D5589-1 Outboard LH Gusset (Item 16) and D5590-1 Inboard LH Gusset (Item 18). Remove the existing rivets to allow flush installation. See Section A-A.
- 3.5.35 Locate (1) D5580-1 Shim (Item 4) onto the structure behind the LH Gussets. Match drill the (2) holes using a #22 Drill (Ø0.157"). See Sections A-A and H-H.
- 3.5.36 Transfer mark the (5) holes to the D5589-1 Gusset, Outboard LH and D5590-1 Gusset, Inboard LH. Drill using a #22 Drill (Ø0.157") and temporarily fix. See Section H-H.
- 3.5.37 Determine the location of the Outboard RH D5589-2 Gusset (Item 17) and D5590-2 Inboard RH Gusset (Item 19). Remove the existing rivets to allow flush installation. See Section B-B.
- 3.5.38 Locate (1) D5580-1 Shim onto the structure behind the RH Gussets, picking up (1) of the drilled out rivet locations. Match drill out the (2) holes using a #22 Drill (Ø0.157"). See Sections B-B and H-H.
- 3.5.39 Transfer mark the (5) holes to the D5589-2 Outboard RH Gusset and D5590-2 Inboard RH Gusset. Drill using a #22 Drill (Ø0.157") and temporarily fix. See Section H-H.
- 3.5.40 Match drill the holes from the D5590-1 Inboard LH Gusset thru the LH keelbeam and match drill the holes from the D5590-2 Outboard RH Gusset thru the RH keelbeam using a #30 Drill (Ø0.129"). See Sections A-A and B-B.
- 3.5.41 Install the D5589-1 Outboard LH Gusset and D5590-1 Inboard LH Gusset to the lateral crossmember using (2) NAS1919C05S04U Rivets (Item 39) and (3) MS20470AD5-6 Rivets (Item 29). See Section H-H.
- 3.5.42 Install the D5589-2 Outboard RH Gusset and D5590-2 Inboard RH Gusset to the lateral crossmember using (2) NAS1919C05S04U Rivets (Item 39) and (3) MS20470AD5-6 Rivets (Item 29). See Section H-H.
- 3.5.43 Install the D5589-1 Outboard LH Gusset and D5590-1 Inboard LH Gusset to the LH keelbeam using (9) MS20470AD4-6 Rivets (Item 25) and (8) MS20470AD4-5 Rivets (Item 24). See Section A-A.
- 3.5.44 Install the D5589-2 Outboard RH Gusset and D5590-2 Inboard RH Gusset to the RH keelbeam using (9) MS20470AD4-6 Rivets (Item 25) and (8) MS20470AD4-5 Rivets (Item 24). See Section B-B.

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- 3.5.45 Install (1) D5592-1 Tie Mount (Item 21) onto the D5589-1 Outboard LH Gusset (Item 16) using (1) LN9439M4X12 Screw (Item 48), (1) LN9016-04K Washer (Item 41) and (1) LN9338-04 Nut (Item 46). See Section A-A.
- 3.5.46 Install (1) D5592-1 Tie Mount (Item 21) onto the D5589-2 Outboard RH Gusset (Item 17) using (1) LN9439M4X12 Screw (Item 48), (1) LN9016-04K Washer (Item 41) and (1) LN9338-04 Nut (Item 46). See Section B-B.
- 3.5.47 Re-route the electrical harness through the D5592-1 Tie Mount (Item 21) and secure using MS3367-1-0 Cable Ties (tie wraps) (Item 49). See Sections A-A and B-B.
- 3.5.48 Locate the installation position of the D5585-1 LH Aft Stringer (Item 12) on the aft face of the lateral crossmember and existing gusset. Remove the groundstuds in the area of the D5585-1 LH Aft Stringer to allow installation. See Section H-H
- 3.5.49 Locate the installation position of the D5587-1 LH Fwd Stringer (Item 14) on the Fwd face of the lateral crossmember. Remove the existing rivets on the lateral crossmember to allow flush installation of the D5587-1 LH Fwd Stringer. See Sections H-H and K-K.
- 3.5.50 Remove the existing rivets on the lateral crossmember to allow flush installation of the D5585-1 LH Aft Stringer (Item 12). Trim the D5585-1 LH Aft Stringer to clear ground studs if necessary. Transfer mark the installation holes from the lateral cross member to the D5585-1 LH Aft Stringer and drill using a #30 Drill ($\varnothing 0.129$ "). See Sections H-H and K-K.
- 3.5.51 Re-locate the D5585-1 LH Aft Stringer and match drill the (3) existing holes from the D5585-1 LH Aft Stringer to the lateral crossmember using a #30 Drill ($\varnothing 0.129$ "). See Sections H-H and K-K.
- 3.5.52 For installation of the D5585-1 LH Aft Stringer to the existing aircraft gusset, locate (4) equally spaced holes onto the gusset and drill using a #30 Drill ($\varnothing 0.129$ "). Leave the D5585-1 LH Aft Stringer temporarily fixed. See Sections H-H, K-K and L-L.
- 3.5.53 Locate the D5587-1 Stringer, LH Fwd (Item 14) onto the lateral crossmember. Transfer mark the drilled out rivets and drill using a #30 Drill ($\varnothing 0.129$ "). See Sections H-H and K-K.
- 3.5.54 Install the D5587-1 Stringer, LH Fwd using (7) MS20470AD4-6 Rivets (Item 25), (2) MS20470AD4-5 Rivets (Item 24) and (2) MS20470AD4-7 Rivets (Item 28). See Sections H-H and K-K.
- 3.5.55 Relocate (1) of the previously removed grounds onto the D5587-1 Stringer, LH Fwd (Item 14) using the existing hardware. Remove the primer and anodize from the contact area to $\varnothing 8\text{mm}$ ($\varnothing 0.32$ "). Protect the bare metal surface with Nycote 7-11BL Protective Coating (Item 51). Re-identify the ground using D5591-1 Ident Label (Item 20). See Section H-H and K-K.
- 3.5.56 Install the D5585-1 Stringer, LH Aft using (3) MS20470AD4-5 Rivets (Item 24), (3) MS20470AD4-6 Rivets (Item 25) and (1) NAS1919C04S03U Rivet (Item 36). See Section H-H.
- 3.5.57 Relocate/Reinstall (1) of the previously removed grounds onto the D5585-1 LH Aft Stringer (Item 12) using (1) LN9037-5012 Bolt (Item 44), (2) LN9016-05K Bevelled Washer (Item 42) and (1) LN9338-05 Nut (Item 47). Remove the primer and anodize from the contact area to $\varnothing 8\text{mm}$ ($\varnothing 0.32$ "). Protect the bare metal surface with Nycote 7-11BL Protective Coating (Item 51). See Section K-K.
- 3.5.58 Relocate/Reinstall the remaining previously removed ground onto the D5585-1 LH Aft Stringer (Item 12) and secure the MS25083-2BB10 Jumper (Item 35) using (1) LN9037-5012 Bolt (Item 44), (1) LN9016-05K Bevelled Washer (Item 42), (2) LN9166-5.3N Washer (Item 45) and (1) LN9338-05 Nut (Item 47). Remove the primer and anodize from the contact area to $\varnothing 8\text{mm}$ ($\varnothing 0.32$ "). Protect the bare metal surface with Nycote 7-11BL Protective Coating (Item 51). See Section J-J.

- 3.5.59 Locate the installation position of the D5588-1 RH Aft Stringer (Item 15) on the Aft face of the lateral crossmember. Remove the existing rivets on the lateral crossmember to allow flush installation of the D5588-1 RH Aft Stringer. See Section H-H.
- 3.5.60 Locate the installation position of the D5586-1 RH Fwd Stringer (Item 13) on the Fwd face of the lateral crossmember. Remove the existing rivets on the lateral crossmember to allow flush installation of the D5586-1 RH Fwd Stringer. See Section K-K.
- 3.5.61 Position the D5588-1 RH Aft Stringer (Item 15) on the lateral crossmember. Install using the rivet pattern defined in Section H-H. For AD4 (1/8" diameter) rivets, drill holes using a #30 Drill (Ø0.129"). For all other rivets (5/32" diameter), use a #22 Drill (Ø0.157"). Install using (7) MS20470AD4-5 Rivets (Item 24), (3) MS20470AD5-6 Rivets (Item 29) and (1) NAS1919C04S03U Blind Rivet (Item 36). See Section H-H.
- 3.5.62 Relocate the previously removed ground onto the lateral crossmember using the existing hardware. Remove the non-conductive finish from the contact area to Ø8mm (Ø0.32"). Protect the bare metal surface with Nycote 7-11BL Protective Coating (Item 51). Re-identify the ground using D5591-1 Ident Label (Item 20). See Section H-H and K-K.
- 3.5.63 Position the D5586-1 RH Fwd Stringer (Item 13) on the lateral crossmember. For AD4 (1/8" diameter) rivets, drill holes using a #30 Drill (Ø0.129"). For all other rivets (5/32" diameter), use a #22 Drill (Ø0.157"). Install using (2) MS20470AD4-6 Rivet (Item 25), (10) MS20470AD4-5 Rivets (Item 24) and (1) MS20470AD5-8 Rivets (Item 30). See Sections H-H and K-K.
- 3.5.64 Reinstall the LH and RH lower forward fairing and center forward fairing (center belly panel) per the Aircraft Maintenance Manual. Belly panel may be trimmed to clear the D5584-1 Doubler (Item 11).

3.6 Installation of D130-1046-211 Removable Provisions, Lower

Refer to Drawing D130-1046-211.

- 3.6.1 Prior to installing the D5555-041 Lower Cutter Assembly (Item 1), spot face the bottom face of the forward LH fastener hole and remove the primer and anodize to Ø8mm (Ø0.32"). Protect the bare metal using Nycote 7-11BL Protective Coating (Item 6). See Drawing Sheet 1 Note 4.
- 3.6.2 Coat the faying surfaces of the D5555-041 Lower Cutter Assembly, ensuring that the fastener holes are clear of sealant.
- 3.6.3 Locate the D5555-041 Lower Cutter Assembly onto the D5584-1 Doubler (ref) of the fixed provisions. See Drawing Sheets 1 and 2.
- 3.6.4 Install the fwd fasteners: (2) LN9386-06025 Bolts (Item 4) and (2) LN9016-06K Washers (Item 3). Fillet seal around the fastener heads with sealant. See View A-A.
- 3.6.5 Install the aft fasteners: (2) LN9386-06028 Bolts (Item 5) and (2) LN9016-06K Washers (Item 3). Fillet seal around the fastener heads with sealant. See View A-A.
- 3.6.6 Fillet seal around the base of the D5555-041 Lower Cutter Assembly (Item 1). See View A-A.
- 3.6.7 Remove the existing Pitot hardware and replace with (4) D5620-M5-12 Brass Screws (Item 2). See View A-A. The brass screws are designed to break away in the event of a wire strike.

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3.7 Completion

- 3.7.1 If removed, reinstall the Glide Slope Antenna per the Aircraft Maintenance Manual and using the existing hardware.
- 3.7.2 If removed, reinstall the modified Air Intake Cowling per the Aircraft Maintenance Manual.
- 3.7.3 If opened, close LH Main Gear Box Cowling per the Aircraft Maintenance Manual.
- 3.7.4 If removed, reinstall the Interior Overhead Panel per the Aircraft Maintenance Manual.
- 3.7.5 If removed, reinstall the Chin Window per the Aircraft Maintenance Manual using the existing hardware.
- 3.7.6 Carry out compass compensation per the Aircraft Maintenance Manual.
- 3.7.7 If removed, reinstall the LH and RH lower Forward fairing per the Aircraft Maintenance Manual.
- 3.7.8 If removed, reinstall the Lower Center Forward Fairing per the Aircraft Maintenance Manual.
- 3.7.9 Paint the visible external components to match the aircraft color scheme per the Aircraft Maintenance Manual.
- 3.7.10 Make an entry into the aircraft log book to indicate installation of the appropriate D130-1046-XXX Cable Cutter Kit. Update the aircraft empty weight and balance using the information in section 4.0.

4.0 WEIGHT AND BALANCE

The following table specifies the weight increase associated with the D130-1046-XXX Cable Cutter Installations.

4.1 Cable Cutter Installations

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D130-1046-011 CABLE CUTTER INSTALLATION, EC130 T2	11.1 lb 5.0 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	33.3 in 0.85 m	370 in-lb 4.3 kg-m
D130-1046-013 CABLE CUTTER INSTALLATION, EC130 T2	11.8 lb 5.4 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	34.7 in 0.88 m	410 in-lb 4.7 kg-m
D130-1046-021 CABLE CUTTER INSTALLATION, EC130 B4	11.9 lb 5.4 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	34.9 in 0.89 m	415 in-lb 4.8 kg-m
D130-1046-023 CABLE CUTTER INSTALLATION, EC130 B4	* lb * kg	± 0 in ± 0 m	0 in-lb 0 kg-m	* in * m	* in-lb * kg-m

* To be determined by installer at time of installation. Weight is equivalent to the D130-1046-021 kit plus the weight of the composite roof reinforcement.

4.2 Cable Cutter Provision Kits

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D130-1046-111 <i>Removable Provisions, Upper</i>	4.3 lb 2.0 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	50.6 in 1.29 m	218 in-lb 2.6 kg-m
D130-1046-113 <i>Fixed Provisions, Upper (T2 Models)</i>	0.7 lb 0.4 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	56.4 in 1.43 m	40 in-lb 0.6 kg-m
D130-1046-115 <i>Fixed Provisions, Upper (B4 Models)</i>	0.8 lb 0.4 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	56.4 in 1.43 m	45 in-lb 0.6 kg-m
D130-1046-117 <i>Roof Reinforcement (B4 Models)</i>	* lb * kg	± 0 in ± 0 m	0 in-lb 0 kg-m	50.6 in 1.3 m	* in-lb * kg-m
D130-1046-211 <i>Removable Provisions, Lower</i>	3.9 lb 1.8 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	19.7 in 0.50 m	77 in-lb 0.9 kg-m
D130-1046-213 <i>Fixed Provisions, Lower</i>	2.9 lb 1.3 kg	± 0 in ± 0 m	0 in-lb 0 kg-m	26.1 in 0.66 m	76 in-lb 0.9 kg-m

*To be determined by installer at time of installation.

5.0 PARTS LIST

QTY -011	QTY -013	QTY -021	QTY -023	Part Number	Description
X				D130-1046-011	CABLE CUTTER INSTALLATION, EC130 T2, WITHOUT UPPER FIXED PROVISIONS
	X			D130-1046-013	CABLE CUTTER INSTALLATION, EC130 T2, WITH UPPER FIXED PROVISIONS
		X		D130-1046-021	CABLE CUTTER INSTALLATION, EC130 B4, WITHOUT ROOF REINFORCEMENT
			X	D130-1046-023	CABLE CUTTER INSTALLATION, EC130 B4, WITH ROOF REINFORCEMENT
1	1	1	1	D130-1046-111	REMOVABLE PROVISIONS, UPPER
	1			D130-1046-113	FIXED PROVISIONS, UPPER, EC130 T2
		1	1	D130-1046-115	FIXED PROVISIONS, UPPER, EC130 B4
			1	D130-1046-117	ROOF REINFORCEMENT, EC130 B4 ¹
1	1	1	1	D130-1046-211	REMOVABLE PROVISIONS, LOWER
1	1	1	1	D130-1046-213	FIXED PROVISIONS, LOWER

¹ D130-1046-023/-117 not required for EC130 B4 that are PRE AMS OP-3560